

# Common Instrument Interface Hosted Payload Opportunity Database

DRAFT as of: 9/27/2011

## Suitability as Hosted Payload Opportunity: Plausible

### ISS

<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude</u> (km)	<u>Inc.</u> (deg)	<u>GEO Long.</u> (deg)	<u>Remarks</u>
10 Apr 2013	Orbital CRS-3	NASA / Orbital	Taurus II	Cygnus	350	51.7		Attached to Cygnus Service Module on one of two external surfaces. Free-flyer once CRS mission complete. Up to 1 year duration, including ISS resupply.
03 Dec 2013	Orbital CRS-4	NASA / Orbital	Taurus II	Cygnus	350	51.7		Attached to Cygnus Service Module on one of two external surfaces. Free-flyer once CRS mission complete. Up to 1 year duration, including ISS resupply.
06 Apr 2014	Orbital CRS-5	NASA / Orbital	Taurus II	Cygnus	350	51.7		Attached to Cygnus Service Module on one of two external surfaces. Free-flyer once CRS mission complete. Up to 1 year duration, including ISS resupply.
07 Oct 2014	Orbital CRS-6	NASA / Orbital	Taurus II	Cygnus	350	51.7		Attached to Cygnus Service Module on one of two external surfaces. Free-flyer once CRS mission complete. Up to 1 year duration, including ISS resupply.
04 Feb 2015	Orbital CRS-7	NASA / Orbital	Taurus II	Cygnus	350	51.7		Attached to Cygnus Service Module on one of two external surfaces. Free-flyer once CRS mission complete. Up to 1 year duration, including ISS resupply.
10 Oct 2015	Orbital CRS-8	NASA / Orbital	Taurus II	Cygnus	350	51.7		Attached to Cygnus Service Module on one of two external surfaces. Free-flyer once CRS mission complete. Up to 1 year duration, including ISS resupply.

### LEO

<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude</u> (km)	<u>Inc.</u> (deg)	<u>GEO Long.</u> (deg)	<u>Remarks</u>
2014	DragonLab Mission 1	SpaceX	Falcon 9	Dragon				2 yr mission. Recoverable pressurized capsule; destructively re-entered unpressurized trunk. 300-1000km @ 20-90 deg inclination. Power to all hosted payloads: 2 kW continuous, 4 kW peak. 1.2 Gbps data rate via SpaceX or 600 Mbps via TDRS at additional cost. All data protocols except SpW supported. Hosted payloads pressurized and unpressurized.
2015	Iridium-NEXT 01	Iridium		Proteus	780	86.4		Iridium has contracted with SpaceX to launch a large part of the constellation on Falcon-9 boosters. The number of flights and the number of satellites on each launch have not yet been disclosed.
								Kosmotras has received a contract to provide supplemental launch services on Dnepr-1 launch vehicles.
2015	Iridium-NEXT 02	Iridium		Proteus	780	86.4		Hosted Payload specs: <50kg; 30x40x70 cm, 50W average, 200W peak, < 1Mbps

### Assumptions and Caveats

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Data are neither validated with primary source nor guaranteed.

Information on ISS manifest vehicles provided for convenience only. ISS Program at JSC is Office of Primary Responsibility for ISS schedule.

### LEGEND

Orbit Domains: ISS (International Space Station), LEO (Low Earth Orbit), GEO (Geostationary Earth Orbit), MEO (Medium Earth Orbit), HEO (Highly Elliptical Orbit), SSO (Sun Synchronous Orbit)

**LEO**

Launch Date	Mission Name	Primary Owner / Operator	LV*	S/C*	Orbital		GEO		Remarks
					Altitude (km)	Inc. (deg)	Long. (deg)		
2015	Iridium-NEXT 03	Iridium		Proteus	780	86.4			Orbital made several non-refundable deposits totaling \$10 million for a right of first refusal on 20 percent of the fleet's capacity to host third-party payloads. Hosted payloads will likely be concentrated on a small number of satellites, as opposed to be spread across entire constellation.
2015	Iridium-NEXT 04	Iridium		Proteus	780	86.4			Iridium will finalize ICD at Space Vehicle PDR in 1Q2012.
2015	Iridium-NEXT 05	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 06	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 07	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 08	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 09	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 10	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 11	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 12	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 13	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 14	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 15	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 16	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 17	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 18	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 19	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 20	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 21	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 22	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 23	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 24	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 25	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 26	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 27	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 28	Iridium		Proteus	780	86.4			

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2015	Iridium-NEXT 29	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 30	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 31	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 32	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 33	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 34	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 35	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 36	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 37	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 38	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 39	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 40	Iridium		Proteus	780	86.4			
2015	Iridium-NEXT 41	Iridium		Proteus	780	86.4			
2015	DragonLab Mission 2	SpaceX	Falcon 9	Dragon					2 yr mission. Recoverable pressurized capsule; destructively re-entered unpressurized trunk. 300-1000km @ 20-90 deg inclination. Power to all hosted payloads: 2 kW continuous, 4 kW peak. 1.2 Gbps data rate via SpaceX or 600 Mbps via TDRS at additional cost. All data protocols except SpW supported. Hosted payloads pressurized and unpressurized.
2016	Iridium-NEXT 42	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 43	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 44	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 45	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 46	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 47	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 48	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 49	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 50	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 51	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 52	Iridium		Proteus	780	86.4			

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					Altitude (km)	Inc. (deg)	Long. (deg)		
2016	Iridium-NEXT 53	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 54	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 55	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 56	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 57	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 58	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 59	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 60	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 61	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 62	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 63	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 64	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 65	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 66	Iridium		Proteus	780	86.4			
2016	Iridium-NEXT 67	Iridium		Proteus	780	86.4	In-Orbit Spare		
2016	Iridium-NEXT 68	Iridium		Proteus	780	86.4	In-Orbit Spare		
2016	Iridium-NEXT 69	Iridium		Proteus	780	86.4	In-Orbit Spare		
2016	Iridium-NEXT 70	Iridium		Proteus	780	86.4	In-Orbit Spare		
2016	Iridium-NEXT 71	Iridium		Proteus	780	86.4	In-Orbit Spare		
2016	Iridium-NEXT 72	Iridium		Proteus	780	86.4	In-Orbit Spare		
2016	Iridium-NEXT 73	Iridium		Proteus	780	86.4	Ground Spare		
2016	Iridium-NEXT 74	Iridium		Proteus	780	86.4	Ground Spare		
2016	Iridium-NEXT 75	Iridium		Proteus	780	86.4	Ground Spare		
2016	Iridium-NEXT 76	Iridium		Proteus	780	86.4	Ground Spare		
2016	Iridium-NEXT 77	Iridium		Proteus	780	86.4	Ground Spare		
2016	Iridium-NEXT 78	Iridium		Proteus	780	86.4	Ground Spare		
2016	Iridium-NEXT 79	Iridium		Proteus	780	86.4	Ground Spare		
2016	Iridium-NEXT 80	Iridium		Proteus	780	86.4	Ground Spare		

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**LEO**

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2016	Iridium-NEXT 81	Iridium		Proteus	780	86.4		Ground Spare

**Suitability as Hosted Payload Opportunity: Implausible or Unknown****GEO**

<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude (km)</u>	<u>Inc. (deg)</u>	<u>GEO Long. (deg)</u>	<u>Remarks</u>
2013	TDRS-L	NASA	Atlas V 401	BSS-601HP	36000	0		
2013	SES-8	SES World Skies	Falcon 9	Star-2.4	36000	0	95E	
2013	Amazonas 3	Hispasat	Ariane 5 ECA	LS-1300	36000	0	61W	
2013	Eurobird 2A / Es'hail 1	Eutelsat Communications	Ariane 5 ECA	LS-1300	36000	0	25.5E	
2013	Eutelsat W3D	Eutelsat Communications		Spacebus-4000C3	36000	0	7E	
2013	Astra 2F	SES Astra	Ariane 5 ECA	Eurostar-3000	36000	0	28.2E	
2013	Astra 5B	SES Astra	Ariane 5 ECA	Eurostar-3000	36000	0	31.5E	
2013	AEHF 4	USAF	Atlas V 531	A2100M	36000	0		
2013	MEXSAT-1	Mexican Space Agency		BSS-702GEM	36000	0	113W	
2013	MEXSAT-2	Mexican Space Agency		BSS-702GEM	36000	0	116.8W	
2013	ABS-2	ABS	Ariane 5 ECA	LS-1300	36000	0	75E	
2013	ARSAT 2	ARSAT		ARSAT-Bus	36000	0	81W	
2013	Ekspress-AM7	RSCC			36000	0	40E	
2013	KazSat 3	JSC KazSat		Ekspress-1000N	36000	0	58.5E	
2013	MEASAT-3b	MEASAT		Eurostar-3000	36000	0	91.5W	
2013	MUOS 2	USN	Atlas V 551	A2100M	36000	0		
2013	Optus 10	SingTel Optus		LS-1300	36000	0		
2013	SICRAL 2	Italian Ministry of Defense	Ariane 5 ECA	Spacebus-4000B2	36000	0	36E	
2013	Skynet 5D	Paradigm Secure Communications	Ariane 5 ECA	Eurostar-3000S	36000	0		
2013	Thor 7	Telenor	Ariane 5 ECA	LS-1300	36000	0	1W	
2013	Türksat 4A	Turksat	Proton-M Briz-M (Ph 4)	DS-2000	36000	0	42E	

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## GEO

<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude</u> (km)	<u>Inc.</u> (deg)	<u>GEO Long.</u> (deg)	<u>Remarks</u>
2013	WGS 6	Australian Department of Defence / USAF	EELV	BSS-702	36000	0		
2013	Yamal 401	Gazprom Space Systems	Proton-M Briz-M (Ph 4)	Ekspress-2000	36000	0	90E	
2014	Meteosat-11	ESA / EUMETSAT		MSG	36000	0	0E	
2014	Astra 2G	SES Astra	Ariane 5 ECA	Eurostar-3000	36000	0	28.2E	
2014	AEHF 5	USAF	Atlas V 531		36000	0		
2014	Eutelsat 3B	Eutelsat Communications		Eurostar-3000	36000	0	3E	
2014	AMOS 6	Spacecom	Falcon 9		36000	0	4W	
2014	DirecTV 14	DirecTV	Ariane 5 ECA	LS-1300	36000	0		
2014	Elektro-L N3	ROSKOSMOS / ROSHYDROMET			36000	0		
2014	GOES R	NOAA	EELV Medium	A2100A	36000	0		
2014	Inmarsat-5 F1	Inmarsat	Proton-M Briz-M	BSS-702HP	36000	0		
2014	Intelsat 30 (DLA 1)	Intelsat		LS-1300	36000	0	95W	
2014	MUOS 3	USN	EELV	A2100M	36000	0		
2014	SBIRS-GEO 3	USAF	EELV	A2100M	36000	0		
2014	Türksat 4B	Turksat	Proton-M Briz-M (Ph 4)	DS-2000	36000	0	50E	
2014	WGS 7	USAF	EELV	BSS-702	36000	0		
2015	AEHF 6	USAF	Atlas V 531		36000	0		
2015	Inmarsat-5 F2	Inmarsat	Proton-M Briz-M	BSS-702HP	36000	0		
2015	Inmarsat-5 F3	Inmarsat	Proton-M Briz-M	BSS-702HP	36000	0		
2015	Intelsat 30 (DLA 2)	Intelsat		LS-1300	36000	0	95W	
2015	MUOS 4	USN	EELV	A2100M	36000	0		
2015	Türksat 5A	Turksat	Proton-M Briz-M (Ph 4)		36000	0		
2015	WGS 8	USAF	EELV	BSS-702	36000	0		
2016	GOES S	NOAA	EELV Medium	A2100A	36000	0		
2016	MUOS 5	USN	EELV	A2100M	36000	0		

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## GEO

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2016	SBIRS-GEO 4	USAF	EELV	A2100M	36000	0		
<b>HEO</b>								
<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude (km)</u>	<u>Inc. (deg)</u>	<u>GEO Long. (deg)</u>	<u>Remarks</u>
2014	MMS 1	NASA / SwRI	Atlas V 421		274 x 70081	28		MMS 1, 2, 3, 4 flying together
2014	MMS 2	NASA / SwRI	Atlas V 421		274 x 70081	28		MMS 1, 2, 3, 4 flying together
2014	MMS 3	NASA / SwRI	Atlas V 421		274 x 70081	28		MMS 1, 2, 3, 4 flying together
2014	MMS 4	NASA / SwRI	Atlas V 421		274 x 70081	28		MMS 1, 2, 3, 4 flying together
<b>ISS</b>								
<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude (km)</u>	<u>Inc. (deg)</u>	<u>GEO Long. (deg)</u>	<u>Remarks</u>
20 Jan 2013	SpaceX CRS 5	NASA / SpaceX	Falcon 9	Dragon	350	51.7		Limited lifetime (30 days). Only unpressurized volume available. Rideshare payloads may be ejected from trunk prior to or to ISS arrival.
2013	JAXA HTV4	JAXA	H-IIB	HTV	350	51.7		
19 Jul 2013	SpaceX CRS 6	NASA / SpaceX	Falcon 9	Dragon	350	51.7		Limited lifetime (30 days). Only unpressurized volume available. Rideshare payloads may be ejected from trunk prior to or to ISS arrival.
02 Oct 2013	SpaceX CRS 7	NASA / SpaceX	Falcon 9	Dragon	350	51.7		Limited lifetime (30 days). Only unpressurized volume available. Rideshare payloads may be ejected from trunk prior to or to ISS arrival.
2013	SAGE-III	NASA			350	51.7		ISS payload (ELC-4)
17 Jan 2014	SpaceX CRS 8	NASA / SpaceX	Falcon 9	Dragon	350	51.7		Limited lifetime (30 days). Only unpressurized volume available. Rideshare payloads may be ejected from trunk prior to or to ISS arrival.
2014	JAXA HTV5	JAXA	H-IIB	HTV	350	51.7		
08 Aug 2014	SpaceX CRS 9	NASA / SpaceX	Falcon 9	Dragon	350	51.7		Limited lifetime (30 days). Only unpressurized volume available. Rideshare payloads may be ejected from trunk prior to or to ISS arrival.
05 Dec 2014	SpaceX CRS 10	NASA / SpaceX	Falcon 9	Dragon	350	51.7		Limited lifetime (30 days). Only unpressurized volume available. Will carry up to 4 P-PODS. More suitable to free-fliers than attached instruments.
05 Apr 2015	SpaceX CRS 11	NASA / SpaceX	Falcon 9	Dragon	350	51.7		Limited lifetime (30 days). Only unpressurized volume available. Will carry up to 4 P-PODS. More suitable to free-fliers than attached instruments.
2015	JAXA HTV6	JAXA	H-IIB	HTV	350	51.7		

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10 Dec 2015	SpaceX CRS 12	NASA / SpaceX	Falcon 9	Dragon	350	51.7		Limited lifetime (30 days). Only unpressurized volume available. Will carry up to 4 P-PODS. More suitable to free-fliers than attached instruments.

**LEO**

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2013	Jason-3	NOAA		Proteus	1336	66		
2013	O3b 1	O3b	Soyuz 2-1b Fregat	Proteus	8063	0		Flying with O3b 1, 2, 3, 4
2013	O3b 2	O3b	Soyuz 2-1b Fregat	Proteus	8063	0		Flying with O3b 1, 2, 3, 4
2013	O3b 3	O3b	Soyuz 2-1b Fregat	Proteus	8063	0		Flying with O3b 1, 2, 3, 4
2013	O3b 4	O3b	Soyuz 2-1b Fregat	Proteus	8063	0		Flying with O3b 1, 2, 3, 4
2013	GPM Core	NASA	H-IIA		407	65		
2013	O3b 5	O3b	Soyuz 2-1b Fregat	Proteus	8063	0		Flying with O3b 5, 6, 7, 8
2013	O3b 6	O3b	Soyuz 2-1b Fregat	Proteus	8063	0		Flying with O3b 5, 6, 7, 8
2013	O3b 7	O3b	Soyuz 2-1b Fregat	Proteus	8063	0		Flying with O3b 5, 6, 7, 8
2013	O3b 8	O3b	Soyuz 2-1b Fregat	Proteus	8063	0		Flying with O3b 5, 6, 7, 8
2014	GEMS	NASA	Pegasus-XL	LEOStar-2	575			
2014	GPM Constellation	NASA			635	40		
2016	GPM-Br	INPE			600	30		

**MEO**

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2013	GPS-2F 6	USAF	Atlas V 401	GPS	20200	55		
2013	GPS-2F 7	USAF	Atlas V 401	GPS	20200	55		
2013	GPS-2F 8	USAF	Atlas V 401	GPS	20200	55		
2014	GPS-2F 9	USAF	Delta IV M+ (4,2)		20200	55		
2014	GPS-2F 10	USAF	Delta IV M+ (4,2)		20200	55		
2014	GPS-2F 11	USAF	EELV		20200	55		
2014	GPS-3A 1	USAF	EELV	A2100A	20200	55		

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**LEGEND**

Orbit Domains: ISS (International Space Station), LEO (Low Earth Orbit), GEO (Geostationary Earth Orbit), MEO (Medium Earth Orbit), HEO (Highly Elliptical Orbit), SSO (Sun Synchronous Orbit)

## MEO

<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude</u> (km)	<u>Inc.</u> (deg)	<u>GEO Long.</u> (deg)	<u>Remarks</u>
2015	GPS-2F 12	USAF	EELV		20200	55		
	<b>SSO</b>				<u>Orbital Altitude</u> (km)	<u>Inc.</u> (deg)	<u>GEO Long.</u> (deg)	
<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>				<u>Remarks</u>
2013	Sentinel-3 A	ESA / EC		Prima	814	98.65		
2013	Sentinel-2 A	ESA / EC	Rokot-KM		786	98.62		
2013	AMAZÔNIA-1	INPE		MMP	753	0		
2013	SAOCOM 1B	CONAE	Falcon 9	SAOCOM	620	97.89		
2013	EarthCARE	ESA / JAXA			393	97		
2013	Arkon-2M	ROSKOSMOS			500			
2013	CARTOSAT-3	ISRO						
2013	OCO-2	NASA		LEOStar-2	705	98.2		
2013	SCATSAT	ISRO						
2013	TerraSAR-X2	DLR						
2013	TES-HYS	ISRO						
2014	Ingenio	CDTI		AstroSat 250	668	98		
2014	SAC-E/SABIA/mar	CONAE						
2014	GCOM-C1	JAXA			800	98.6		
2014	CSG-1	ASI			620	97.8		
2014	DMSP F-20	NOAA	EELV	Tiros-N	850	98.7		
2014	WorldView 3	DigitalGlobe	Atlas V 401	BCP-5000	770		Current WorldView customers include NGA	
2014	RADARSAT C-1	CSA	Dnepr-1	MAC-200	600	97.7		
2014	CBERS-4	INPE	Long March 4C		778	98.5		
2014	Sentinel-5 precursor	ESA / NSO			824	98.742		
2014	FY-3D	NRSCC			830	98.753		
2014	Sentinel-1 B	ESA / EC		Prima	693	98.19		
2014	Sentinel-2 B	ESA / EC	Vega		786	98.62		
2014	Sentinel-3 B	ESA / EC		Prima	814	98.65		

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### LEGEND

Orbit Domains: ISS (International Space Station), LEO (Low Earth Orbit), GEO (Geostationary Earth Orbit), MEO (Medium Earth Orbit), HEO (Highly Elliptical Orbit), SSO (Sun Synchronous Orbit)

**SSO**

<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude</u> (km)	<u>GEO Inc.</u> (deg)	<u>GEO Long.</u> (deg)	<u>Remarks</u>
2014	ALOS-3	JAXA			650			
2014	D/F Climate Mission	DLR			650			
2014	EnMAP	DLR	PSLV-CA		650			
2014	Meteor-MP N1	ROSKOSMOS / ROSHYDROMET						
2014	OCEANSAT-3	ISRO			720	98.28		
2014	RESOURCESAT-3	ISRO			817	98.72		
2014	RISAT-3L	ISRO				97.844		
2014	SMAP	NASA			685	98		
2015	ISTAG	ISRO						
2015	MAPSAR	INPE		MMP	620	98		
2015	Meteor-MP N2	ROSKOSMOS / ROSHYDROMET						
2015	SAOCOM 2A	CONAE	Falcon 9	SAOCOM	620	98		
2016	GCOM-W2	JAXA			700	98.2		
2016	ICESat-2	NASA		LEOStar-3	594 x 586	94		
2016	Meteor-MP N3	ROSKOSMOS / ROSHYDROMET						
2016	Metop-C	ESA / EUMETSAT	Soyuz 2-1a Fregat	PPF/SPOT Mk. 3	840	98.8		Part of EUMETSAT Polar System
2016	SAOCOM 2B	CONAE	Falcon 9	SAOCOM	620	98		
2018	GCOM-C2	JAXA			800	98.6		
2019	Post-EPS	ESA / EUMETSAT						

**TBD**

<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude</u> (km)	<u>GEO Inc.</u> (deg)	<u>GEO Long.</u> (deg)	<u>Remarks</u>
2013	NROL-33	NRO	Atlas V Medium					CCAFS Launch
2013	NROL-65	NRO	Delta IV H					VAFB Launch
2013	NROL-67	NRO	Atlas V Medium					CCAFS Launch
2013	Resurs P N2	ROSKOSMOS / ROSHYDROMET						
2014	NROL-35	NRO	Atlas V Medium					VAFB Launch
2014	NROL-39	NRO	Atlas V Medium					VAFB Launch

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LEGEND

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**TBD**

<u>Launch Date</u>	<u>Mission Name</u>	<u>Primary Owner / Operator</u>	<u>LV*</u>	<u>S/C*</u>	<u>Orbital Altitude</u> (km)	<u>Inc.</u> (deg)	<u>GEO Long.</u> (deg)	<u>Remarks</u>
2014	NROL-55	NRO	EELV Medium					VAFB Launch
2014	UK-DMC 3A	DMC	Dnepr-1	SSTL-300S1				
2014	UK-DMC 3B	DMC	Dnepr-1	SSTL-300S1				
2014	UK-DMC 3C	DMC	Dnepr-1	SSTL-300S1				
2016	NROL-37	NRO	EELV Heavy					CCAFS Launch
2016	NROL-79	NRO	EELV Medium					VAFB Launch
2017	NROL-42	NRO	EELV Medium					VAFB Launch
2017	NROL-61	NRO	EELV Medium					CCAFS Launch
2017	NROL-45	NRO	EELV Medium					VAFB Launch
2017	NROL-71	NRO	EELV Heavy					VAFB Launch
2018	NROL-44	NRO	EELV Heavy					CCAFS Launch
2019	NROL-52	NRO	EELV Medium					CCAFS Launch
2019	NROL-47	NRO	EELV Medium					VAFB Launch
2020	NROL-68	NRO	EELV Heavy					CCAFS Launch

Assumptions and Caveats

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